

PCT/EP2004/007242

BEST AVAILABLE COPY

## PATENT CLAIMS

1. Drive assembly for a preferably vertically movable carriage (13), a correspondingly disposed stationary rack (1) of which the associated pinion is operable for vertically moving carriage (13) through a transmission (21) by means of a drive motor (22) having a static-current actuated brake (23) at the B-end bearing plate, with additional carriage retaining means provided and engageable as needed to secure the vertically movable carriage (13) in place, characterized by said retaining means comprising an additional brake unit (20) disposed on carriage (13) and adapted to cause a pinion (2) of its own to directly engage rack (1), with pinion (2) idling along with the normal movements of carriage (13), and with brake unit (20) adapted to be actuated independently from static-current brake (23) of drive motor (22).
2. Drive assembly as in claim 1, characterized in that, at the same time, shaft (3) of pinion (2) constitutes the shaft of brake rotor (8 or 9) and is supported by bearings (14, 15) disposed in opposite side walls of brake housing (11) or of solenoid support housing (4), respectively, so as to obtain the greatest possible distance between such bearings.
3. Drive assembly as in claim 1 or 2, characterized by brake unit (20) comprising as a static-current actuated, normally energized electromagnetic brake (4, 5, 6, 7).
4. Drive assembly as in claim 1 or 2, characterized by brake unit (20) being pneumatically or hydraulically actuated.

5. Drive assembly as in any one of the preceding claims, characterized in that bearing (14) has a greater diameter than splined hub (12) of the brake so that shaft (3) is formed to be integral with hub (12).
6. Drive assembly as in any one of the preceding claims, characterized by brake unit (20) having two or more brake rotors.
7. Drive assembly as in any one of the preceding claims, characterized in that pinion (2) of brake unit (20) meshes with an additional stationary rack parallel with first rack (1).
8. Drive assembly as in any one of the preceding claims, characterized in that pinion (2) of brake unit (20) is formed of felt material over a portion of its length for rack lubrication.
9. Drive assembly as in claim 8, characterized in that shaft (3) of pinion (2) has in end face (19) a rotary leadthrough for the introduction of lubricant to be supplied to the felt portion of pinion (2).
10. Drive assembly as in any one of the preceding claims, characterized in that brake unit (20) is configured to have two parallel flats (17, Fig. 3) machined away for reducing its structural height, i.e. the distance thereof to drive motor (22) on carriage (13).

HO/CI  
M5308-engl

BEST AVAILABLE COPY